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ENTOMOLOGICAL NEWS

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Calopteryx versus Agrion; Again ?(Odonata)

By ERICH SCHMIDT, Mozartstr. 22, Bonn, Germany, British Zone

In 1775 Fabricius (Systema Entomologiae . . . , p. 425) created the genus *Agrion* for the two Linnean species *Libellula virgo* and *Libellula puella.* Systematic development afforded further splitting of this genus, so that a new genus name was necessary for one of these species. The next proposal was certainly that of Leach, usually quoted as 1815 (Edinb. Encycl. 9, 1, p. 137), who erected the genus *Calepteryx* for *Agrion virgo.* This new name was corrected by Burmeister 1839 into *Calopteryx* (Handb. Ent. 2, p. 825), which was generally adopted and remained valid over 50 years, until 1890, when Kirby in his well known Catalogue (p. 96) believed a change necessary, as Latreille in 1802 (p. 287) had elected *Libellula virgo* as genotype of *Agrion* Fabr.; he proposed therefore the new name *Coenagrion* for *Agrion puella* as genotype (1890). Since this time a dualism in nomenclature arose not only for these two genera, but also for two principal stems of Odonata, with its unfortunate consequences, especially misunderstanding and changing of opinion (Tillyard, E. M. Walker), and therefore it should be appreciated to remove this unpleasant condition, which was illustrated by Ris (1912, Suppl. Ent. 1, p. 54) and Calvert (1927, Ent. News 38, p. 185f.).

It was a pity that Kirby's Catalogue appeared just at the time, when one of the best experts on literature on Odonata, namely Dr. Hermann August Hagen, became ill and was unable to criticize it.

Selys Longchamps (Ann. Soc. Ent. Belg. 34, CR. (4) 9, p. clix ff., 1890) considered Kirby's views on nomenclature as "ultra-radical" in their excessive application of the laws of priority; he wished more tolerance concerning accomplished facts, which have in their favor a long prescription, often of 100 years, and general use for a great number of years; we should not seek to revive completely forgotten things on the results of curious bibliographic researches into papers often not to be found, and in consequence not to be checked. It is more to the interest of science not to destroy the general works and monographs elaborated with patience and learning by recent specialists. It seemed to him an impossibility to adopt the change of names (*Agrion* for *Calopteryx*) and the new names (*Coenagrion*) which stand in a flagrant contradiction to a nomenclature, the descent of which begins with splitting up the Linnean genus *Libellula* by Fabricius and Latreille and continued by Leach and others, whose papers and nomenclature were generally adopted.

A similar point of view illustrating the "schism" as a result of Kirby's "ultra-radicalism" was published forty years later by Dr. F. Ris. (Mitt. Münchn. Ent. Ges. 20, p. 71f., 1930), of which we give here a somewhat free translation: In the polemics suggested by Kirby's catalogue *Calopteryx* versus *Agrion* the camps are separated—not exactly, but approximately—according to the continents: America is using *Agrion* preponderantly, Europe is still keeping more to *Calopteryx;* Australia (Tillyard) has recently tended from *Calopteryx* to *Agrion;* an unpleasant condition, which probably reflects also the different views concerning history and tradition. Apparently the arguments of neither party are able to convince the other. This is inevitable in many questions of nomenclature, and as it is so, the writer (Ris) takes the following point of view. The first purpose of nomenclature in general is to be understood; questions of priority are secondary. Since it is called *Calopteryx* in classical works as the "Monographie des Calopterygines" by Selys-Hagen, in the "Synopsis" by Selys and the "Revue des Odonates," which the Monographie continued, why should I use

Agrion, when the arguments offered for the change are in no way indisputable? If I continue to use *Calopteryx,* as hitherto in all my published papers, I am sure to be understood correctly at once, and this is the principal matter.

In general it might be said: The naturalists are in error when they try to decide questions of nomenclature among each other, according to their own methods, even in universal congresses. These questions, however, have more relation to quite another sphere of human knowledge and research than to natural history: their near relationship to problems of jurisprudence is unmistakable. And when we consider that the subjects of justice here are not concrete and living persons, but abstract and dead names, we may transfer the whole matter without any reserve to jurisprudence; in other words (as the latter will not concern itself with it in its own interest) we should consult the representatives of this science in a friendly way, that they may help us to disentangle the nomenclatorial chaos with the assistance of their principles elaborated during thousands of years. Without such principles as "prescription," "acquired rights," and similar ideas, this disentanglement is doubtless impossible; but with them it should be possible; the result will certainly be a healthy conservatism, more respect for good custom and not the helpless driving in a casuistry, in which always new entanglements emerge which the law (the international rules of nomenclature with all their annexes) never could foresee or in general solve without ambiguity.

We believe that everyone will acknowledge that such opinions given by two eminent authorities near the ends of their lives of successful work in systematic Odonatology show a reasonable and wise attitude and human superiority; he will also appreciate every attempt to convince those who might be more pretentious in other directions. For such bibliographic grave-diggers the following lines may perhaps be of interest.

Muttkowski (Bull. Wisconsin Nat. Hist. Soc. 8, p. 158f., 1910) stated that "Kirby's change (of name) was based on Latreille (Histoire naturelle générale et particulière des Crustaces et des Insectes, 1805 [1])": "but as Latreille's description

[1] Vol. 3 of the series appeared in 1802.

is somewhat indefinite some doubt may have been had as to the advisability of the decision of the International Commission on Zoological Nomenclature." The result of a correspondence with Dr. Stiles was that *Agrion virgo* was fixed by Latreille in 1810 (Considérations générales . . . p. 434). This statement was repeated by Cowley, 1934 (Entomologist 67, p. 204), apparently without knowledge of Muttkowski's previous statement.

It is noteworthy that another important statement by Hagen, just one hundred years ago (Ent. Ztg. Stettin 10, p. 67 and footnote), concerning the date of publication of Leach's article, taken from Stephens (Brit. Ent. 6, p. 77, 80), where Hagen declared that Stephens had said expressly that the *genera of Odonata formed by Leach were erected in the year 1810,* seems to have been overlooked, as it never was criticized. The date of Brewster's Edinburgh Encyclopaedia, where Leach's paper appeared, is differently quoted in other places. Hagen's Synonymia Libellularum Europaearum 1840, p. 12, has 1810; Agassiz' Nomenclator has 1817 (teste Hagen); in Hagen's Bibliotheca Ent. it is 1815 and a reprint of 1830. Calvert (Trans. Amer. Ent. Soc. 20, p. 227, 1893) mentions an Amer. edition of 1816. We understand that in such a gigantic work as Brewster's Encyclopaedia not all volumes and parts were printed within one year, but appeared in installments, and we are inclined to believe that the part of Leach was ready before 1815, and perhaps even in 1810, as Stephens knew it, and according to his note he was astonished that the "celebrated Latreille did *not* know it!" He says (l. c. p. 77 concerning the species of *Lestes* Leach): "these insects, as well as those of the preceding genus (*Agrion*), were long considered as constituting *one species* only, and are thus considered in the latest works of the celebrated Latreille, although the discrepancies of the two genera were pointed out by Leach in 1810!!" This accentuation, the two marks of exclamation and the further mention of the year 1810 on page 80 exclude any possibility of an error or misprint, and we must suppose, together with Hagen, that "it seems to be more correct that Leach's genera were erected in the year 1810." Under this supposition (which up to date we are unable to

verify), the conclusion will be necessary that *the priority of Latreille versus Leach has become at least or even more than doubtful* and that it will be best to reject Kirby's objection definitely.

Another possibility is that Hagen perhaps erroneously carried Stephens' statement over to Leach's article in Brewster's Encyclopedia and Stephens considered another paper of Leach which appeared in 1810. Perhaps this might be that in the "New Cyclopedie von Rees," quoted by Hagen in his Bibl. Ent. 1, p. 457, without sufficient dates and also not accessible to the present writer. In Hagen's quotation the latter precedes that of Brewster.

If we see further the modest contributions only which Latreille gave to the matter after 1802 (the latter was, as was pointed out above, excluded by Muttkowski, Stiles and Cowley), we understand Hagen's opinion (1848, l. c. p. 59), that "Latreille (1804) made only a weak attempt to limit the known species," and this agrees well with Stephens' opinion, mentioned above, and both authors were more or less contemporaries of Latreille. Leach, however, is "the first Englishman, who seems to have subjected the Odonata to a strong scientific criticism. His classification testifies to an exact knowledge of the family and is usually (except for the new exotic genera) up to date" (Hagen 1848, l. c. p. 67).

The writer should be satisfied if this contribution might destroy the dualism in this principal question of nomenclature, and he hopes that no Kirbyus redivivus might ever arise again!

[At Dr. Schmidt's request I add the following: Thanks to the cooperation of librarians of the Academy of Natural Sciences of Philadelphia, the American Philosophical Society, the Library of Congress at Washington, the New York Public Library and the Alderman Library of the University of Virginia at Charlottesville, it appears that no article "Entomology" by William Leach was published in Rees' Cyclopaedia in spite of the references to it in Hagen's Bibliotheca Entomologica, p. 457, No. 1, under Leach, and in Horn & Schenkling's Index Litteraturae Entomologiae, p. 697, No. 12909.—P. P. CALVERT.]

Dragonflies Collected from Beaufort County, South Carolina, during the Fall of 1945

By GEORGE H. BICK, Zoology Department, Tulane University, New Orleans, La.

During October 1945 three small collections of dragonflies were obtained from Ladies Island, just east of the town of Beaufort in Beaufort County, South Carolina. All collections were by the author and from the immediate vicinity of small fresh water pine land ponds. All specimens have been deposited in the collections of the Zoology Department of Tulane University. Species represented are:

Anax junius. Lot 368. 3 males. October 21.
Epiaeschna heros. Lot 370. 1 nymph. October 21.
Libellula pulchella. Lot 369. 1 male. October 14.
Pachydiplax longipennis. Lot 368. 6 males, 1 female. October 21.
Trapezostigma carolina. Lot 368. 3 males. October 21.

This note supplements the annotated list of Odonata of South Carolina by Prof. B. E. Montgomery (Jour. Elisha Mitchell Sci. Soc., 56-2: 283-301, 1940). EDITOR.

The Correction of a Genotypic Citation for the Genus Choristoneura Led.

It has been brought to my attention by G. E. Bucher, that in my note on the generic assignment of the spruce budworm *Choristoneura fumiferana* Clem. (Can. Ent. LXXIX: 21, 1947) I cited the genotype as *Tortrix rusticana* Treit. This citation is a *laps. cal.* for *Tortrix diversana* Hbn., the correct genotype as contained in my original manuscript.

T. N. FREEMAN.

Notes on Some North American Skippers, with the Description of a New Species from Kansas (Lepidoptera: Hesperiidae)

By H. A. FREEMAN, Southern Methodist University, Dallas, Texas

Urbanus undulatus (Hew.)

This species has been recorded from Mexico to southern Brasil and Paraguay, and also from Trinidad. The writer collected a specimen of this species at Tamazunchale, Mexico, during June and another one at Acapulco on the first of July, 1936.

On September 19, 1947, a female specimen of *undulatus* was collected off zinnias in a flower garden in Pharr, Texas. This individual appeared to be fresh, except that both tails were missing. This is the first record for this species in the United States.

Hesperia metea licinus (Edwards)

Pamphilia licinus Edwards, Trans. Amn. Ent. Soc. 3: 275, 1871, near Waco, Texas.
Hesperia horus Edwards, Trans. Amn. Ent. Soc. 3: 277, 1871, near Dallas, Texas.
Hesperia metea belfragei Freeman, Field and Laboratory, Vol. XII, No. 1, p. 20, Jan. 1944, Cedar Hill, Dallas Co., Texas.

For a number of years considerable confusion has existed concerning the status of *Pamphilia licinus* Edwards and *Hesperia horus* Edwards. Recently Dr. A. W. Lindsey [1] placed *Pamphilia licinus* Edwards as a synomym of *Hesperia metea* Scudder and stated "The type of *licinus* is a normal specimen of *metea*. The upper surface, illustrated by Holland, is less distinctive than the lower." With this in mind, the writer described as a new form *Hesperia metea belfragei,* from nine specimens collected at Cedar Hill, Dallas Co., Texas. This form is characterized by being larger, darker and having the maculation greatly re-

[1] LINDSEY, A. W., A preliminary revision of Hesperia. Denison Univ. Bull., Jn. Sci. Lab., Vol. XXXVII, April, 1942, p. 16.

duced from typical *metea* Scudder. After corresponding with Dr. A. Avinoff and W. R. Sweader, at that time Assistant Curator, Carnegie Museum, the writer is fully convinced that *licinus* represents the Texas subspecies of *metea*. Dr. Sweadner stated in one of his letters: "I have examined the type of *Hesperia licinus* (Edw.). The ground color on both sides is a dull dark brown similar to the color in the genus *Prenes*. All of the spots are much reduced. The under side of the hind wing lacks the greenish sheen in the anal area that our specimens of *H. metea* have. The white spots around the end of the cell are reduced to minute dots. The band is less than half the width of that of *metea* and appears to be broken on vein 6. There is no whitish scaling on the veins." This description fits perfectly the insect named by the writer *metea belfragei* thus placing *belfragei* as a synomym of *licinus*. The drawing that Dr. Avinoff sent the writer verified Dr. Sweadner's statement.

For several years the writer has thought that *Hesperia horus* Edwards was the female of *Pamphilia licinus* Edwards and after carefully checking the original description and several sketches of the type at Cambridge there appears to be no doubt that this specimen is a female of Edwards' *licinus* and the writer's *belfragei*. Of the five females of this subspecies collected by the writer and his wife, two fit the original description and pictures of *horus* perfectly. In the other three the spots are present in a more or less definite degree. It is very easy to understand why so many lepidopterists have been confused with *horus* as two of my specimens show very little resemblance to the genus *Hesperia* much less to *metea*.

In the past twenty-two years the writer has never seen a typical specimen of *metea* from Texas or from any of the adjoining states. Two females were collected in Arkansas several years ago and one was sent to the late Dr. Eugene Murray-Aaron who in turn stated that it certainly looked like the unique type of *horus* Edwards. These two specimens were not quite as dark and immaculate as Texas examples. There exist in Georgia and the surrounding area specimens of *metea* that appear to be intermediate between typical *metea,* from the northeastern part of the United States, and *licinus* from Texas.

As *licinus* has page priority only over *horus* we will accept that name thus placing in synonymy *horus* Edwards and *belfragei* Freeman.

Atrytone eulogius Ploetz

This tropical American species has been recorded from Mexico to South America. Hoffmann [2] reports *eulogius* from Vera Cruz to the Yucatan peninsula and around Sinaloa in Mexico. The writer collected two males at Brownsville, Texas; one May 24, 1946, and the other Nov. 28, 1947. This is the first recorded evidence of this species in the United States.

Atrytonopsis turneri new species

♂. Upper surface, primaries, greyish-brown, with a variable number of white spots, ranging from seven, three subapical, two below these and two near the end of the cell, to immaculate.

Secondaries, greyish-brown, darker near the base, otherwise immaculate.

Under surface, primaries, dark grey with a lighter grey overscaling near the outer margin. The spots reappear and are somewhat better defined on this surface.

Secondaries, grey, with a lighter overscaling over most of the wing. Most specimens immaculate, whereas some may have one or two white spots near the base. A few specimens have a faint submesial row of spots.

Fringes are light, nearly white on both pairs of wings. Palpi sordid white. The body is dark grey above and lighter beneath.

Expanse.—28 mm.–35 mm., average 31 mm.

♀. Similar to the ♂, except that the spots are larger and the fringes somewhat darker.

Expanse.—32 mm.–38 mm., average 34 mm.

Described from 47 specimens, 29 ♂♂, and 18 ♀♀, from Barber Co., and Caldwell, KANSAS; Freedom, OKLAHOMA. Collected by Dr. and Mrs. R. C. Turner, Dr. J. R. Turner, and Mr. and Mrs. Don B. Stallings, during April and May 1945–46.

[2] HOFFMANN, C. C., Catalogo sistematico y zoogeografico de los Lepidopteros Mexicanos. Segunda parte. Hesperioidea. Anal. Inst. de Biol., Mexico, D. F., Tomo XII, No. 1, p. 276, 1941.

This new species is named in honor of Dr. R. C. Turner, who collected a large number of the type series of this undescribed species.

Holotype ♂, Barber Co., Kansas, May 5, 1946, *allotype* ♀, Barber Co., Kansas, April 28, 1946, will be placed in the American Museum of Natural History; 1 pair of *paratypes* will be placed in the following museums: Academy of Natural Sciences Philadelphia and United States National Museum; 2 pairs are in the collection of Mr. Otto Buchholz; 15 ♂♂, and 7 ♀♀ are in the collection of Stallings and Turner and the remaining 9 ♂♂ and 6 ♀♀ are in the collection of the author.

This new species appears to be related to *hianna* Scud. and *deva* (Edw.). The general coloration and maculation are very much like that of *deva,* but it differs from that species in its smaller size. *Turneri* differs from *hianna* in being grey instead of brown and there is more of an even grey coloration on the under surface of the secondaries than is present in *hianna.* The submesial row of spots in *turneri* is greatly reduced from that of *hianna.* The fringes and palpi are also lighter in *turneri* than they are in *hianna.*

Cobalus percosius G. & S.

Hoffmann states on page 276 of his Hesperioidea that *percosius* occurs in Mexico in the vicinity of Vera Cruz. On November 28, 1947, the writer caught a ♂ specimen of this species in Brownsville, Texas. While on a collecting trip with Mr. Otto Buchholz between Brownsville and Southmost, Texas, April 4, 1948, we caught 40 specimens of this species, 35 ♂♂, and 5 ♀♀. Three days later (April 7, 1948) Otto Buchholz went back to this spot again and caught 7 ♂♂, and 3 ♀♀, making a total of 50 specimens collected in a three-day period. This species is native to that particular habitat and the specimens were collected off thistles and evening primroses.

This establishes another new skipper record for our North American list, as previously no members of the genus *Cobalus* have been recorded from the United States.

Undescribed Species of Crane-Flies from the Western United States and Canada (Dipt.: Tipulidae) Part X

By CHARLES P. ALEXANDER, University of Massachusetts, Amherst, Massachusetts

The preceding part under this title was published in ENTOMOLOGICAL NEWS, 59: 121–128, 1948. At this time I am describing various new species from Arizona, virtually all from the White Mountains in the Apache National Forest. From June 20 to 25, 1947, we were encamped on the South Fork of the Little Colorado River, where we enjoyed and profited greatly by the companionship of John and Grace Sperry. With the Sperrys we visited and collected at various places in the northern part of the White Mountains, particularly at and near Greer, Alpine and Coulter's Ranch, chiefly at altitudes between 8000 and 9000 feet. The types of the novelties are preserved in my collection of these flies.

Limnophila (Phylidorea) semifacta new species

Mesonotum black, sparsely pruinose; mesopleura black, the propleura and metapleura obscure yellow; antennae black throughout; femora black, the bases yellow; wings with a weak brown tinge, the margins a trifle darker than the disk; stigma oval, pale brown; abdomen yellow, the lateral portions darker; segment eight dark brown, forming a narrow ring; male hypopygium with the outer dististyle slender, unequally bidentate at tip; outer gonapophyses appearing as strong blackened blades, narrowed at tip into a strong spine.

♂. Length about 11 mm.; wing 10 mm.

Rostrum and palpi black. Antennae black throughout; basal flagellar segments a trifle produced on lower face, the outer segments more elongate; intermediate segments subequal in length to their verticils. Head uniformly gray.

Pronotum dark gray pruinose. Mesonotum black, sparsely pruinose, the humeral and lateral borders of the praescutum

restrictedly obscure brownish yellow; pseudosutural foveae brownish black; scutellum brown, the sides and the parascutella obscure yellow; mediotergite pruinose, pleurotergite brownish yellow. Pleura with the mesopleura brownish black, pruinose, the propleura and metapleura obscure yellow. Halteres with stem pale yellow, knob infuscated. Legs with the coxae and trochanters yellow; femora black, the bases yellow, involving about the proximal fourth; remainder of legs brownish black to black, the tibiae and basitarsi brownish black. Wings with a weak brownish tinge, the costal, apical and posterior regions a very little darker than the disk; stigma oval, pale brown; prearcular field brighter yellow; veins dark brown, yellow in the prearcular area. Venation: Sc_1 ending shortly before the fork of *Rs*, Sc_2 long, ending shortly beyond the fork of *Rs*, R_{2+3+4} a little longer than the basal section of vein R_5; *m–cu* at or just before midlength of cell *1st* M_2.

Abdominal tergites obscure brownish yellow, darker laterally; sternites clearer yellow, similarly patterned; eighth segment darker brown to form a narrow subterminal ring; hypopygium obscure yellow. Male hypopygium with the tergite terminating in two slender lobes, directed caudad, separated by a much broader notch. Basistyle on mesal face produced into a microscopic tubercle. Outer dististyle a slender rod, blackened and unequally bidentate at apex, the smaller subterminal spine being on the outer margin. Inner dististyle with the basal half stout, the outer half abruptly narrowed into a slender lobe. Phallosome with the aedeagus small, slender, the subtending apophyses subequal in length and size. Outer apophyses appearing as strong blackened blades, the tips narrowed into a stout black spine, these spines slightly divergent.

Habitat.—ARIZONA. *Holotype:* ♂, White Mountains, near Greer, 8400 feet, June 21, 1947 (C. P. Alexander).

Limnophila costata Coquillett (Psyche, 9: 149, 1901) was described from a single female specimen, collected by the late Professor T. D. A. Cockerell in the Hudsonian Zone of the range between the Pecos and Sapello Rivers, northwest of Las Vegas, New Mexico, at an altitude of about 11,000 feet, August 1–4, 1900. This is still known only from this unique type which

agrees with the present fly in the elongate vein Sc_1 and in other details of venation but differs in the coloration of the body, antennae, legs and wings.

Gonomyia (Idiocera) biacus new species

♂. Length about 5 mm.; wing 5 mm.

Allied to *coloradica* Alexander, differing chiefly in the structure of the male hypopygium. Outer or forked dististyle with the short lateral branch stout, oval in outline. Third dististyle a simple blackened rod, gradually narrowed to the acute gently curved tip. Inner dististyle with the outer spine small and but slightly developed. Aedeagus with the lateral apical spines very long and powerful, approximately four times as long as the central protruding penis-guard, the spines lying generally parallel to one another; setae along face of aedeagus relatively sparse and scattered. Particular attention is called to the differences in the third dististyle and the aedeagus.

Habitat.—ARIZONA. *Holotype:* ♂, Chiricahua Mts., along small stream below Rustler's Park, 7000 feet, June 5, 1942 (C. P. Alexander).

Gonomyia (Idiocera) sperryana new species

Size large (wing, male, 7 mm. or over); mesonotum gray, the praescutum with two narrow brown lines that diverge behind, extending over the scutal lobes; pleura conspicuously striped longitudinally with gray and yellow; knobs of halteres infuscated; femora yellow, darkened outwardly; wings whitish subhyaline, restrictedly patterned with brown; sternites yellow, with a broad sublateral black stripe, broken at the posterior borders of the segments; male hypopygium with the lobe of the basistyle obtuse at tip; outer dististyle with the branches very unequal, the outer a slender spine, the inner a broad triangular blade; second style a strong black rod, nearly parallel-sided, at tip narrowed into a short point; inner style dilated, the inner margin notched; apex of aedeagus simple, decurved.

♂. Length about 6–7 mm.; wing 7–8.2 mm.

♀. Length about 7.5 mm.; wing 8 mm.

Rostrum and palpi black. Antennae with scape yellow, pedicel and first flagellar segment pale basally, darkened at tips; remainder of flagellum black, the segments oval with short verticils. Head above yellow, the center of vertex darkened; posterior parts of head more brownish gray.

Pronotum gray medially, the sides and the pretergites light yellow. Mesonotum gray, the praescutum with two narrow brown lines that diverge behind, crossing the suture over the scutal lobes; humeral region restrictedly yellow; scutellum with a pair of brown spots; postnotum gray, the dorsal pleurotergite yellow, extended behind onto the sides of the mediotergite. Pleura dark gray, conspicuously striped longitudinally with light yellow, including the dorsopleural region and a more ventral stripe from the fore coxae to the abdomen; sternopleurite darkened. Halteres yellow, knobs infuscated. Legs with the fore and middle coxae light yellow, the posterior pair more obscure yellow; trochanters yellow; femora yellow, darkened at outer end, the extreme tip, in cases, slightly paler; tibiae brown, the tips and the tarsi black. Wings whitish subhyaline, restrictedly patterned with brown, including small spots at Sc_2, origin of *Rs*, cord and outer fork of media; stigma infuscated; a brown wash in outer ends of cells R_3 and R_4; veins dark brown, *Sc* paler. Venation: Apical fusion of veins R_{1+2} and R_3 relatively extensive; *m–cu* more than its own length before the fork of *M*.

Abdominal tergites dark brown, the caudal borders of the segments narrowly yellow, the lateral margins more narrowly so; pleural membrane yellow; sternites yellow, with a broad sublateral black stripe, broken at the posterior borders of the segments; hypopygium chiefly yellow. Male hypopygium with the outer lobe of basistyle relatively small, the apex obtuse, with long setae. Outer or branched dististyle with the arms very unequal, the outer one a slender spine, the inner a broad triangular blade; second style a strong black rod, nearly parallel-sided, at tip narrowed into a short point; third style a very weak pale rod, the shortest of the four styles or branches; inner style narrowed at base, dilated outwardly, the inner margin notched or

emarginate, forming a small basal lobe and a large outer blade. Apex of aedeagus simple, decurved.

Habitat.—ARIZONA. *Holotype:* ♂, Alpine, White Mountains, 8400 feet, June 23, 1947 (C. P. Alexander). *Allotopotype:* ♀. *Paratopotypes:* ♂♀ (Alexander and Sperry).

I take unusual pleasure in naming this fine species for the Sperrys, who collected part of the type series. This is by far the largest member of the subgenus in the Nearctic fauna. It is most similar to *Gonomyia* (*Idiocera*) *proserpina* Alexander, differing in the size and in the structure of the male hypopygium.

Gonomyia (Gonomyia) filiformis new species

General coloration of mesonotum dark brownish gray; pleurotergite and pleura yellow, the latter restrictedly patterned with light brown; rostrum yellow; antennae black throughout; halteres elongate; wings long and narrow; *Sc* short, Sc_1 ending close to the origin of *Rs;* male hypopygium with the outer dististyle an elongate blackened club that is provided with abundant long black setae; inner dististyle with the usual spine weak and only feebly chitinized; aedeagus long and slender, the tip simple, slightly decurved; apophyses apparently lacking.

♂. Length about 5–5.2 mm.; wing 6.5–7 mm.

Rostrum yellow; palpi black. Antennae black throughout, relatively long; basal flagellar segments long-oval, the outer ones more slender and lengthened, subcylindrical, exceeding the verticils in length. Head above dark gray, yellow beneath.

Pronotum yellow, narrowly infuscated medially; pretergites light yellow. Mesonotal praescutum and scutum dark brownish gray, unpatterned; median region of scutum obscure yellow, the posterior parts of the lobes clearer yellow; scutellum brown, the posterior border broadly obscure yellow; mediotergite dark brown, pruinose, the sides and the pleurotergite yellow. Pleura yellow, restrictedly patterned with reddish brown or light brown on the anepisternum and ventral sternopleurite. Halteres elongate, stem yellow, knob infuscated. Legs with the coxae and trochanters yellow; femora and tibiae brownish yellow, the tips weakly darkened; tarsi passing into brownish black. Wings

long and narrow, grayish subhyaline, the prearcular field paler; stigma small, pale brown, scarcely evident; veins brown. Venation: *Sc* short, Sc_1 ending opposite or just beyond the origin of *Rs*, Sc_2 at its extreme tip; *Rs* a trifle longer than R_{2+3+4}; *m–cu* variable in position, from just before the fork of *M* to about opposite one-fifth the length of cell *1st* M_2.

Abdomen slender; tergites brown, the borders of the outer segments narrowly yellow; sternites obscure yellow; hypopygium yellow, the outer ends of the dististyles conspicuously blackened. Male hypopygium with the outer lobe of the basistyle relatively small, long-oval, with a fringe of strong setae on outer end. Outer dististyle an elongate darkened club that is provided with unusually numerous and conspicuous black setae. Inner dististyle erect, the usual spine weak, feebly chitinized and hence little evident, appressed to the main body of style, its tip narrowly obtuse; style terminating in two unequal fasciculate setae, its apex produced into an acute pale point. Aedeagus long and slender, the tip simple, slightly decurved; apophyses lacking or fused with the basal half of the aedeagus.

Habitat.—ARIZONA. *Holotype:* ♂, Greer, White Mountains, 8800 feet, June 22, 1947 (C. P. Alexander). *Paratopotypes:* Several ♂♂, June 21–22, 1947 (Alexander).

The most similar regional species is *Gonomyia* (*Gonomyia*) *filicauda* Alexander, which has the outer dististyle of the male hypopygium somewhat as in the present fly. The actual relationship between the two is probably not close since the structure of the aedeagus is quite distinct in the two flies.

Erioptera (Empeda) perflavens new species

General coloration reddish yellow; head above light gray; halteres and legs yellow; wings uniformly pale yellow, the veins pale; Sc_1 ending about opposite three-fifths the length of *Rs;* male hypopygium with the outer dististyle unequally bifid, the outer arm longest.

♂. Length about 4.6–4.8 mm.; wing 5.4–5.5 mm.

Rostrum yellow; palpi brownish black. Antennae with the scape yellow, pedicel brownish black; basal flagellar segments

pale brown, the outer ones somewhat darker. Head with front yellow, the posterior part of head light gray.

General coloration of the entire thorax pale reddish yellow, unpatterned, the sparse vestiture pale. Halteres pale yellow. Legs yellow, the outer tarsal segments brownish black; legs with scattered dark setae and smaller pale linear scale-like setae. Wings uniformly pale yellow, the veins a trifle darker yellow, difficult to see against the ground. Venation: Sc_1 ending about opposite three-fifths the length of *Rs*, Sc_2 close to its tip; R_{2+3+4} about one-half longer than R_2; vein R_3 arcuated at origin, about half as long as R_4; petiole of cell M_3 subequal to the more sinuous *m–cu*, the latter shortly before or close to the fork of *M*.

Abdominal tergites brownish yellow, the sternites and hypopygium clearer yellow. Male hypopygium with the outer dististyle unequally bifid, the outer arm longest, gently curved on the outer third; inner blade shorter, expanded at apex into a triangular head, the inner apical angle somewhat more pointed. Inner dististyle a straight flattened blade, its apex obtusely rounded.

Habitat.—ARIZONA. *Holotype:* ♂, White Mountains, Coulter's Ranch, 9200 feet, June 24, 1948 (C. P. Alexander). *Paratopotypes:* 1 ♂, June 21, 1947 (C. P. Alexander); 2 ♂♂, 9200 feet, June 27, 1947 (John and Grace Sperry).

This species is entirely distinct from the other forms described from the United States. It more resembles certain Mexican species, such as *Erioptera* (*Empeda*) *tridentata* Alexander and *E.* (*E.*) *unidentata* Alexander, which have entirely different hypopygia.

Molophilus (Molophilus) stolidus new species

Belongs to the *plagiatus* group; general coloration black, heavily pruinose to appear gray; antennae short, black throughout; halteres with stem infuscated, knob white; legs with coxae gray, the remainder black; wings with a strong blackish tinge; vein *2nd A* gently sinuous; male hypopygium with the basal dististyle an elongate rod, the tip acute, before apex bearing a smaller acute spine.

♂. Length about 4–4.5 mm.; wing 4.5–5 mm.

♀. Length about 5 mm.; wing 4.5 mm.

Rostrum and palpi black. Antennae short, black throughout; flagellar segments oval, shorter than the verticils. Head black, heavily gray pruinose; anterior vertex broad.

Pronotum black; posterior edge of anterior pretergites restrictedly obscure yellow. Thorax almost uniformly dark gray, being pruinose over a black ground. Halteres with stem infuscated, knob white. Legs with the coxae gray; remainder of legs black. Wings with a strong blackish tinge, the prearcular field and the cells just beyond more whitened; veins darker brown. Venation: R_2 lying just beyond the level of *r–m;* petiole of cell M_3 varying from relatively short, about one-fourth longer than *m–cu,* to approximately twice the length of *m–cu;* vein *2nd A* gently sinuous, ending about opposite the posterior end of *m–cu.*

Abdomen, including genitalia, black. Male hypopygium with the beak of the ventral lobe of the basistyle relatively deep; outer dististyle unequally bilobed. Basal dististyle distinctive, appearing as an elongate rod, the tip acute, before apex with a smaller acute spine; remainder of surface of outer half of style, especially the outer surface, with microscopic roughenings. Aedeagus long and slender.

Habitat.—ARIZONA. *Holotype:* ♂, on slide, White Mountains, Alpine, 8400 feet, June 22, 1947 (C. P. Alexander). *Allotopotype:* ♀, June 23, 1947. *Paratopotypes:* ♂♀, with the allotype (C. P. Alexander).

The most similar regional species is *Molophilus* (*Molophilus*) *arizonicus* Alexander, which differs conspicuously in the coloration of the body and legs and in the structure of the male hypopygium, particularly the basal dististyle.

Personals

Dr. John Adams Comstock, after 20 years service, has retired from active duty as Chief Curator of Natural Science of the Los Angeles County Museum. Dr. Comstock is widely known as the author of the authoritative "Butterflies of California," and of about 100 other technical articles on the taxonomy, ecology and development of Lepidoptera, largely illustrated by his own pen and brush. He has also been associated with the Southern California Academy of Sciences as its secretary, its president and as editor of its publications. A biographical sketch of Dr. Comstock appeared in Los Angeles Co. Museum Quarterly, vol. 7 (2) pp. 11–12.

Dr. Reginald H. Painter has been awarded a University Post-doctoral Fellowship at Ohio State University, Department of Entomology, for the year 1948–49. He has received sabbatical leave from Kansas State College, Manhattan, Kansas, and will spend his leave in Columbus, Ohio, in research and in writing a book on resistance of crop-plants to insect attack. This research was begun in 1926 as a cooperative project with the Department of Agronomy and the Bureau of Entomology and has resulted in the development of insect-resistant varieties of various crop plants. Some of the insects concerned were the Hessian fly, wheat strawworm, corn earworm, grasshopper, southwestern corn borer, chinch bug and the pea aphid.

Catalogue des Lépidoptères

Catalogue des Lépidoptères de France et de Belgique by Leon Lhomme is nearing completion. Twenty-seven years were spent in compiling this work which includes 4500 species, of which 2800 are Microlepidoptera. The volume on Macrolepidoptera costs 500 francs, that on Microlepidoptera 2000. Subscriptions should be sent to M. Leon Lhomme, Le Carriol, par Douelle, Lot, France.

J. L. Williams.

Current Entomological Literature

COMPILED BY RAYMOND Q. BLISS AND R. G. SCHMIEDER.

Under the above head it is intended to note papers received at the Academy of Natural Sciences of Philadelphia and the University of Pennsylvania, pertaining to the Entomology of the Americas (North and South), included Arachnida and Myriopoda. Articles irrelevant to American entomology will not be noted; but contributions to anatomy, physiology and embryology of insects, however, whether relating to American or exotic species will be recorded.

This list gives references of the year 1948 unless otherwise noted. Continued papers, with few exceptions, are recorded only at their first installment.

For records of Economic Literature, see the Experiment Station Record Office of Experiment Stations, Washington. Also Review of Applied Entomology, Series A, London. For records of papers on Medical Entomology, see Review of Applied Entomology, Series B.

NOTE: The figures within brackets [ ] refer to the journal in which the paper appeared, as numbered in the List of periodicals and serials published in our January and June issues. The number of the volume, and in some cases, the part, heft, &c. is followed by a colon (:). References to papers containing new forms or names not so stated in titles are followed by (*); if containing keys are followed by (k); papers pertaining exclusively to Neotropical species, and not so indicated in the title, have the symbol (S).

Papers published in ENTOMOLOGICAL NEWS are not listed.

GENERAL—Ander, K.—A few words on entomology at the University of Lund. [Opuscula Ent.] 13: 49–51. **Anon.**—Arturo F. Bayne (obit. with portrait). [Rev. Soc. Ent. Argent.] 14: 124–25. **Chou, Io**—My autobiography. [Insecta Sinensium] 1: 94–95, 1946. **Hemming, F.**—Important advances in Zoological Nomenclature achieved at the Thirteenth International Congress of Zoology. [Coleopt. Bull.] 2: 52–55. **Hennig, W.**—(Larval and adult systematics, see under Diptera.) **Herschberger, R. V.**—Stain combinations in living insects. [58] 48: 160–68. **Krutzsch, P. H.**—Water-like surfaces attract volant desert animals. [26] 29: 391–92. **Lieberman, J.**—(For note on Lawrence Bruner see under Orthoptera.) **MacLeod, J.**—The distribution and dynamics of ked populations, Melophagus ovinus. [61] 39: 61–68. **Meiners, E. P.**—Brief biographies. 14. George Duryea Hulst (1846–1900). 15. George Wheeler (1858–1947). [Lep. News] 2: 66–67.—Phil Rau, 1885–1948. (Obituary.) *Ibid.* p. 62. **Needham, J. G.**—Ecological notes on the insect population of the flower heads of Bidens pilosa. [Ecolog. Monogr.] 18: 431–46. **Orr, J. W.**—Absence of carcinogenic activity of benzene hexachloride (Gammexane). [53] 162: 169. **Preston, F. W.**—The commonness and rarity of species. [26] 29: 254–83. **Tate, P.**—The technique for breeding pure-line cultures of the blowfly Calliphora erythrocephala. [61] 39: 102–04. **Thomas, M.**—Anthropomorphisme et finalisme en psychologie animale. (Premier partie.) ["Scientia," Riv. di Sci., Italy] 42: 145–56.

ANATOMY, PHYSIOLOGY, MEDICAL—Adams, J. P. et J. Lepointe—Recherches sur la morphologie des sternites et des pleurites des Mantes. [Bull. Mus. Nat. d'Hist. Nat., Paris] 2 ser., 22: 169–73, ill. **Amar, R.**—Un organe endocrine chez Idotea (Crustacea). [C. R. Acad. Sci., Paris] 227: 301–03. **Arthur, D. R.**—On the egg of the tick, Ixodes ricinus. [61] 39: 53–60. **Baker, W. L.**—Transmission by leaf hoppers of the virus causing phloem necrosis of American elm. [80] 108: 307–08. **Barlet, J.**—Remarques sur la musculature thorac du Machilides. [Ann. Soc. Sci., Bruxelle] ser. II, T. 60: 1–81, ill., 1946. **Basir, M. A.**—On a Physaloptera larva from an insect: Cameronia biovata g. et sp. nov. (Thelastomatid), a new nematode parasite of the mole cricket, Gryllotalpa africana. [24] 26: 197–200. **Bettini, S. e L. Tentori**—Insetti e vitamine. I. Rivista sintetica. II. Vitamine A et E nell'Anopheles labranchiae var. atroparvus. [Riv. di Parassit.] 8: 129–39, 1947. **Burbanck, Edwards and Burbanck**—Toleration of lowered oxygen tension by cave and stream crayfish. [26] 29: 360–67. **Busvine, J. R.**—The head and body races of Pediculus humanus. [61] 39: 1–16, ill. **Buxton, P. A.**—Experiments with mice and fleas. I. The baby mouse. [61] 39: 119–24. **Camin, J. H.**—Mite transmission of a hemorrhagic septicemia in snakes. [46] 34: 345–54. **Carpenter, F.**—Sur la valeur morphologique des pleurites du thorax des Machilides. Bul. [Ann. Soc. Ent. Belg.] 82: 165–81, ill., 1946.—Quelques remarques concernant la morphologie thorac des Collemboles. *Ibid.* 33: 297–303, 1947. **Demerec, M.**—Induction of mutations in Drosophila by dibenzanthracene. [Genetics] 33: 337–48. **Ford, E. B.**—The genetics of habit in the genus Colias. [30] 81: 209–12. **Grison, P.**—Effet du groupement sur la croissance des chenilles du Bombyx Cul-brun (Euproctis phaeorrhaea) (Liparidae). [C. R. Soc. Biol., Paris] 142: 610–12. **Grison, P. et V. Labeyrie**—Effet de l'humidite sur le tissage des nids chez Bombyx Cul-brun (Euproctis phaeorrhaea). C. R. Soc. Biol., Paris 142: 609–610. **Guareschi, C. e A. Stefanelli**—L'attivita respiratoria della Calliphora erythrocephala durante il ciclo larvale e pupale. [Atti Reale Accad. D'Italia, Rend. Classe di Sci. Fis. Mat. e Nat.] ser. vii, vol. 3: 464–70, 1942. **Hadorn, E. and G. Bertani**—Induktion männlicher Pigmentierung in somatische Zellen von Drosophila Ovarien. [Rev. Suisse de Zool.] 55: 232–43. **Hamon, J. et M. Ovazza**—Morphologie thoracique des Dermapteres. [Bull. Mus Nat. d'Hist. Nat., Paris] 2 ser., 22: 174–77, ill.

Hassett, C. C.—The utilization of sugars and other substances by Drosophila. [12] 95: 114–23. **Henke, K.**—Über Ordnungsvorgänge in der Spätentwicklung der Insekten. [Rev. Suisse de Zool.] 55: 319–37, ill. **Hennig, W.**—Übersicht über die bisher bekannten Metamorphosestadien der Ephydriden. [Arbeiten morph. u. tax. Ent., Berlin-Dahlem] 10: 106–38, ill. (k).—Ein Beitrag zum Problem der Beziehungen zwischen Larven und Imaginalsystematik. *Ibid.:* 138–44, 1943. **Hinton, H. E.**—The dorsal cranial area of caterpillars. [6] 14: 843–52, ill. **Humes, A. G.**—Larval coleoptera and diptera from marine crustaceans. [26] 29: 392–93. **Jameson, E. W., Jr.**—Myobiid mites (Acarina: Myobiinae) from shrews (Mammalia: Soricidae) of eastern North America. [46] 34: 336–42 (*). **Lindroth, C. H.**—Influence of the sun on the flight direction of some Coleoptera. [Ent., Tidskr., Stockholm] 69: 132–34. **Loreti, F.**—Sulla structtura della fibra muscolare striata negli artropodi. [Real Accad. D'Italia, Classe Sci., Fis., Mat., e Nat., Memorie] 11, fasc. 13: 499–630, 1940. **Lüscher, M.**—Gewebekultur "in vivo" bei Rhodnius prolixus. [Rev. Suisse de Zool.] 55: 227–32, ill. **Manunta, C.**—Sul metabolismo dei pigmenti carotenoidi nel bruco di cavolaia Pieris brassicae e nel suo endoparassita Microgaster conglomeratus. [Atti Reale Accad. D'Italia, Rend. Classe di Sci. Fis., Mat. e Nat.] ser. vii, vol. 3: 151–53, 1941. **Masera, E.**—Miceti patogeni all Bombyx mori L. [Riv. di Parassit.] 4: 51–60, 1940. **Menzies and Waidzunas**—Postembryonic growth changes in the isopod Pentidotea resecata with remarks on their taxonomic significance. [12] 95: 107–13. **Ossiannilsson, F.**—On the sound-production of the females of certain Auchenorrhynchous Homoptera. [Ent. Tidskr., Stockholm] 69: 125–26. **Palmer-Jones, T.**—A recent outbreak of honey poisoning. I. Historical and descriptive. [New Zealand Jour. Sci. and Techn.] 29 sec. A: 107–14.—II. (By **M. D. Sutherland** and **Palmer-Jones**). The toxic substances of the poisonous honey. *Ibid.:* 114–20.—III. (By **T. Palmer-Jones**). The toxicology of the poisonous honey and the antagonism of tutin, mellitoxin and picrotoxin by barbiturates. *Ibid.:* 121–25.—IV. (By **C. P. Patterson**) The source of the toxic honey. Field observations. *Ibid.:* 125–29.—V. (By **M. D. Sutherland**) The source of the toxic honey. Laboratory observations. *Ibid.:* 129–33.—VI. (By **W. F. Harris** and **D. W. Filmer**) Botanical investigations of pollen and nectar flora. *Ibid.:* 134–43. **Park and Frank**—The fecundity and development of the flour beetles, Tribolium confusum and T. castaneum, at three constant tem-

peratures. [26] 29: 368–74. **Parker, D. R.**—Observations on crossing over induced by X-rays in the male of Drosophila. [Genetics] 33: 304–10. **Petersen, B.**—The heat rigor temperature of Swedish mountain lepidoptera. [Ent. Tidskr., Stockholm] 69: 135–41. **Saccà, G.**—Sull'esistenza di mosche domestiche resistenti al DDT. [Riv. di Parassit.] 8: 127–28, 1947. **Satchell, G. H.**—The respiratory horns of Psychoda pupa (Psychod.). [61] 39: 43–52. **Sharif, M.**—The water relations of the larva of Xenopsylla cheopis (Siphon.). [61] 39: 148–55. **Silvestri, F.**—Studi degli Strepsiptera. II. Descrizione, biologia e svilluppo postembryonale dell'Halictophagus tettigometrae. [Boll. Lab. Zool. Gen. e Agrar. della Fac. Agr. Portici] 32: 11–48, ill., 1941.—III. Descrizione e biologia di sei specie italiane di Menginilla. *Ibid.:* 197–282, 1943.—Contribuzione alla conoscenza dei Coleotteri Corotocini (Staph. Aleocharinae) termitofili dell'America meridionale. [Atti della Accad. Naz. dei Lincei, Class. di sci. fis., mat. e nat., Memorie, Roma] ser. VIII, vol. 1: 1–22, ill., 1946. **Snodgrass, R. E.**—The feeding organs of Arachnida, including mites and ticks. [Smithsonian Miss. Coll.] 110: 1–93. **Vogt, M.**—Zur labilen Determination der Imaginalscheiben von Drosophila. V. Beitrag zur Manifestierung der Mutante antennaless. [Biol. Zentral.] 66: 388–95, 1947.

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ORTHOPTERA—Adam et Lepointe—(See under Anatomy.) **Basir, M. A.**—(See under Anatomy.) **Lieberman, J.**—Los Acridos de Santa Fe. (Includes a note on and a bibliography of Dr. Lawrence Bruner, pp. 56–61.) [Rev. Soc. Ent. Argent.] 14: 56–114. **Willemse, C.**—A new Cyphacris from the upper Amazon of eastern Peru. [Rev. Soc. Ent. Argent.] 14: 12–16.

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Reviews

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These notices are continued as long as our limited space will allow; the new ones are added at the end of the column, and, only when necessary those at the top (being longest in) are discontinued.

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